Appl. No. 09/499,871
Amdt. Dated May 16, 2007
Reply to Office Action of February 16, 2007

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (previously presented) An apparatus for re-routing user connections between first and second nodes in a network switch, the apparatus comprising:

a loop-back path to provide connectivity between the first and second nodes, the first node having a primary connection and a secondary connection, the primary connection carrying the user connections during a normal mode, the secondary connection not using network bandwidth during the normal mode; and

a switching element coupled to the loop-back path and the first node to connect the loop-back path to the primary connection during the normal mode and to the secondary connection when there is a failure condition at the primary connection.

2.   (original) The apparatus of claim 1 wherein the loop-back path is one of a physical connection and a logical connection.

3.   (previously presented) The apparatus of claim 1 wherein the failure condition is detected by a network monitor.

4.   (original) The apparatus of claim 3 further comprising:

a re-route handler coupled to switching element to control the switching element based on a connectivity status between the first and second nodes, the connectivity status indicating the failure condition at the primary connection between the first and second nodes.

5.   (previously presented) The apparatus of claim 4 wherein the switching element switches the connectivity based on the connectivity status provided by the network monitor.

6.   (previously presented) The apparatus of claim 1 wherein the secondary connection does not carry user connections during the normal mode.

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7.   (previously presented) The apparatus of claim 1 wherein the network switch is an asynchronous transfer mode (ATM) switch.

8.   (original) The apparatus of claim 7 wherein the primary and secondary connections correspond to a virtual path connection (VPC) in the ATM switch.

9.   (previously presented) The apparatus of claim 3 wherein the network monitor is one of an operations, administration, and maintenance (OAM) monitor and a call release procedure.

10.   (original) The apparatus of claim 9 wherein the primary and secondary connections have equal connection capacity.

11.   (previously presented) A method for re-routing connections between first and second nodes in a network switch, the method comprising:

connecting the first and second nodes by a loop-back path, the first node having a primary connection and a secondary connection, the primary connection carrying user connections during a normal mode, the secondary connection not using network bandwidth during the normal mode; and

connecting the loop-back path to the primary connection during the normal mode and to the secondary connection by a switching element when there is a failure condition at the primary connection.

12.   (original) The method of claim 11 wherein the loop-back path is one of a physical connection and a logical connection.

13.   (previously presented) The method of claim 11 wherein the failure condition is detected by a network monitor.

14.   (original) The method of claim 13 further comprising:

controlling the switching element by a re-route handler based on a connectivity status between the first and second nodes provided by the network monitor, the connectivity status indicating the failure condition at the primary connection between the first and second nodes.

15.   (original) The method of claim 14 wherein the switching element switches the connectivity based on the connectivity status provided by the network monitor

16.   (previously presented) The method of claim 11 wherein the secondary connection does not carry user connections during the normal mode.

17.   (previously presented) The method of claim 11 wherein the network switch is an asynchronous transfer mode (ATM) switch.

18.   (original) The method of claim 17 wherein the primary and secondary connections correspond to a virtual path connection (VPC) in the ATM switch.

19.   (previously presented) The method of claim 13 wherein the network monitor is one of an operations, administration, and maintenance (OAM) monitor and a call release procedure.

20.   (original) The method of claim 19 wherein the primary and secondary connections have equal connection capacity.

21.   (currently amended) A computer program product comprising:
a computer ~~usable~~ storage medium having computer program code embodied therein for re-routing connections between first and second nodes in a network switch, the computer program product having:

computer readable program code for connecting the first and second nodes by a loop-back path, the first node having a primary connection and a secondary connection, the primary connection carrying user connections during a normal mode, the secondary connection not using network bandwidth during the normal mode; and

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computer readable program code for connecting the loop-back path to the primary connection during the normal mode and to the secondary connection by a switching element when there is a failure condition at the primary connection.

22.   (original) The computer program product of claim 21 wherein the loop-back path is one of a physical connection and a logical connection.

23.   (original) The computer program product of claim 22 wherein the failure condition is detected by a network monitor.

24.   (original) The computer program product of claim 23 further comprising:
computer readable program code for controlling the switching element by a re-route handler based on a connectivity status between the first and second nodes provided by the network monitor, the connectivity status indicating the failure condition at the primary connection between the first and second nodes.

25.   (original) The computer program product of claim 24 wherein the switching element switches the connectivity based on the connectivity status provided by the network monitor.

26.   (previously presented) The computer program product of claim 21 wherein the secondary connection does not carry user connections during the normal mode.

27.   (previously presented) The computer program product of claim 21 wherein the network switch is an asynchronous transfer mode (ATM) switch.

28.   (original) The computer program product of claim 27 wherein the primary and secondary connections correspond to a virtual path connection (VPC) in the ATM switch.

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29.   (previously presented) The computer program product of claim 23 wherein the network monitor is one of an operations, administration, and maintenance (OAM) monitor and a call release procedure.

30.   (original) The computer program product of claim 29 wherein the primary and secondary connections have equal connection capacity.

31.   (previously presented) A system comprising:
first and second nodes to carry user connections in a network switch; and
a circuit coupled to the first and second nodes to re-route the user connections between first and second nodes, the circuit comprising:

> a loop-back path to provide connectivity between the first and second nodes, the
> first node having a primary connection and a secondary connection, the primary
> connection carrying the user connections during a normal mode, the secondary
> connection not using network bandwidth during the normal mode; and

> a switching element coupled to the loop-back path and the first node to connect
> the loop-back path to the primary connection during the normal mode and to the
> secondary connection when there is a failure condition at the primary connection.

32.   (original) The system of claim 31 wherein the loop-back path is one of a physical connection and a logical connection.

33.   (previously presented) The system of claim 31 wherein the failure condition is detected by a network monitor.

34.   (original) The system of claim 33 wherein the circuit further comprises:
a re-route handler coupled to the switching element to control the switching element based on a connectivity status between the first and second nodes, the connectivity status indicating the failure condition at the primary connection between the first and second nodes.

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35. (original) The system of claim 34 wherein the switching element switches the connectivity based on the connectivity status provided by the network monitor.

36. (previously presented) The system of claim 31 wherein the secondary connection does not carry user connections during the normal mode.

37. (previously presented) The system of claim 31 wherein the network switch is an asynchronous transfer mode (ATM) switch.

38. (original) The system of claim 37 wherein the primary and secondary connections correspond to a virtual path connection (VPC) in the ATM switch.

39. (previously presented) The system of claim 33 wherein the network monitor is one of an operations, administration, and maintenance (OAM) monitor and a call release procedure.

40. (original) The system of claim 39 wherein the primary and secondary connections have equal connection capacity.

41. (previously presented) An apparatus for re-routing connections between first and second nodes in a network switch, the apparatus comprising:

means for connecting the first and second nodes by a loop-back path, the first node having a primary connection and a secondary connection, the primary connection carrying user connections during a normal mode, the secondary connection not using network bandwidth during the normal mode; and

means for connecting the loop-back path to the primary connection during the normal mode and to the secondary connection when there is a failure condition at the primary connection.

42. (previously presented) The apparatus of claim 41 wherein the loop-back path is one of a physical connection and a logical connection.

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43.   (previously presented) The apparatus of claim 41 wherein the failure condition is detected by a network monitor.

44.   (previously presented) The apparatus of claim 43 further comprising:
means for controlling the switching by a re-route handler based on a connectivity status between the first and second nodes provided by the network monitor, the connectivity status indicating the failure condition at the primary connection between the first and second nodes.

45.   (previously presented) The apparatus of claim 44 wherein the means for switching switches the connectivity based on the connectivity status provided by the network monitor.

46.   (previously presented) The apparatus of claim 41 wherein the secondary connection does not carry user connections during the normal mode.

47.   (previously presented) The apparatus of claim 41 wherein the network switch is an asynchronous transfer mode (ATM) switch.

48.   (previously presented) The apparatus of claim 47 wherein the primary and secondary connections correspond to a virtual path connection (VPC) in the ATM switch.

49.   (previously presented) The apparatus of claim 43 wherein the network monitor is one of an operations, administration, and maintenance (OAM) monitor and a call release procedure.

50.   (previously presented) The apparatus of claim 49 wherein the primary and secondary connections have equal connection capacity.

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